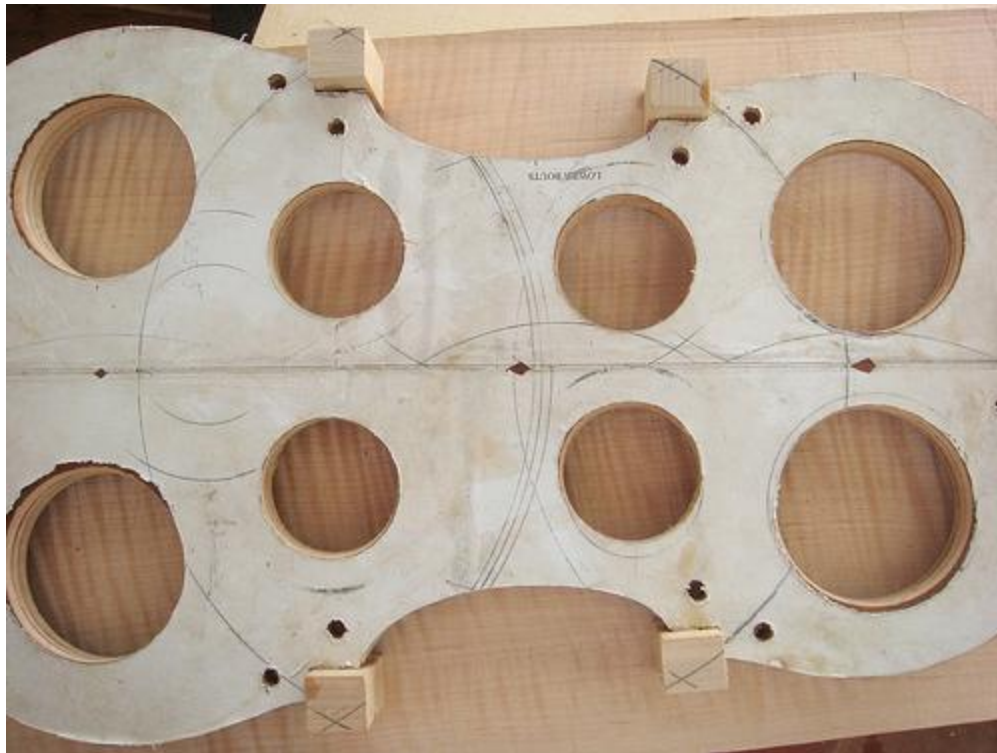


Hi all! I have noticed that shaping the corners properly is a problem for newcomers. Corners are a tough test for newcomers, they may be too long, too short, too narrow (rendering the appearance of the instrument too weak), too wide, too hooked, etc.

So I decided to make this small tutorial about this subject. I'm not a scholar in violin making and my approach here, again, will be practical, and it's the method I'm currently using for my violas. Again, it's not an "official" method, it's my personal method.

The final appearance of the corners will depend heavily on the ribs form that are below them, so I'll start with the ribs. It's a good thing following good plans, such as those published by THE STRAD magazine and try to copy the forms of the instrument that is inspiring you

Based on the Strad poster, I use the dividers to mark the end of the corners over my corner blocks:



In this way I'll define the end, the point of the finished corner block, that will be one or two millimeters shorter than the rib mitre, because the rib mitre will add one or two millimeters to the final shape.

These four points given by the dividers will be equidistant from the center line and geometrically balanced. You will find in the Strad Poster that Italian violins are not symmetrical, in the case of this viola I've built a symmetrical mold but, eventually, the instrument will be slightly asymmetrical due to the use of the inner form, that creates small irregularities.



Then I lightly glue my rib cage (just by the 6 blocks) to the back (wich edges are already thinned to 5 millimeters) with thick paper between the 6 blocks to make further removal easy. Then I reduce the edge to the final overhang, leaving the corners untouchred and wide.

I start shaping the corners by cutting their point in the proper angle and overhang. The angle used to cut the end of the corner is quite important for the final look. I try to guess the angle used in the model I'm being inspired (here the Andrea Guarneri CONTE VITALE viola), I use the real size pictures of the back, since the corners of the top are in general damaged, I put a rule over it and project the line over the upper part of the back and take the distance from the centerline with a divider:





I'll do the same with the upper corners:



and transfer the measurements for my back:



Now, using a rule, I'll project this line to get the angle in which my corner will be cut:



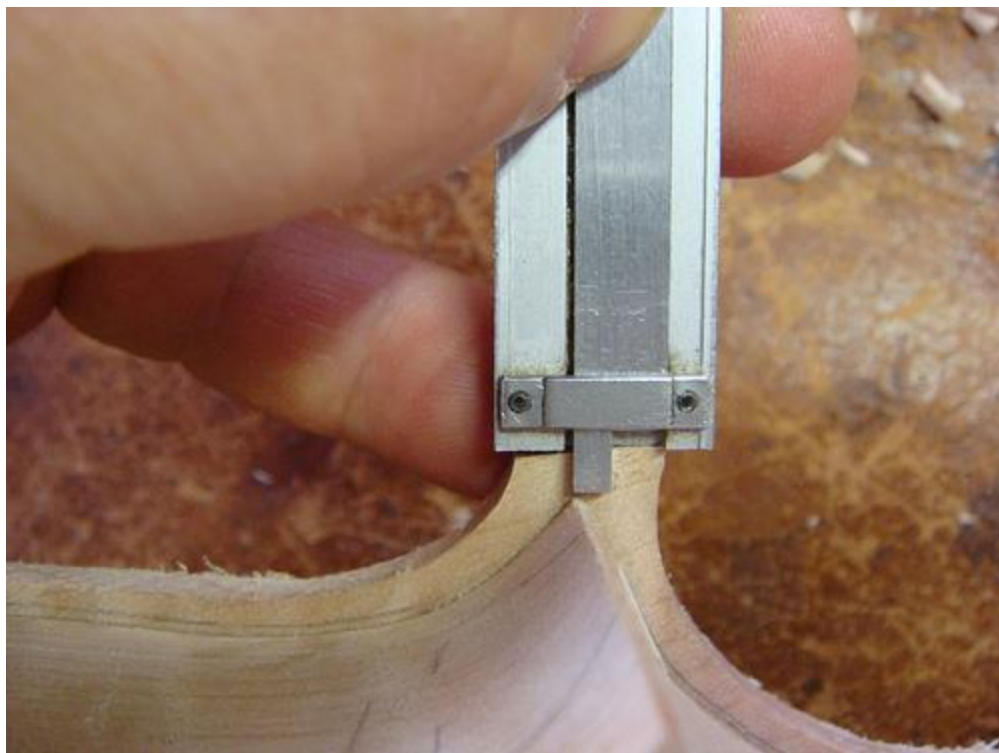
I will draw some lines over the corner, that will guide me while cutting the corner. I draw many lines because if I cut out the outer ones the inner ones will remain to continue guiding me:



I'll use a small low angle block plane to cut the corners to their final overhang distance (here I'm using 3 millimeters of overhand, but Del Gesù used up to 5 millimeters in some of his violins). Since the rib cage and the plane are over a flat surface, the plane will cut in a 90 degrees angle. The plane will cut small amounts of wood, allowing me to control the overhang more precisely than if I were using a small saw or other tool:



Here I'm controlling the corner overhang with a caliper. I don't like too long corners, they play havoc with the players bow hand and, with some time, too long corners will get damaged by accidental bow impacts.



I'll repeat the process with the 4 corners.

Now I mark a point in the end of the corner aligned with the rib mitre:



Now I draw a line from this point to point in the centerline (I find it by eye):



With the divider centered in the centerline I draw an arch that will touch the first line:



Then I trace another line like this. These two lines will give me a visual orientation of the corners:



Now I will draw two parallel lines, one above and one below this line, with the same width of the corner I'm intending to make, here about 8.5 millimeters.

Some years ago now I would cut the corners with a knife, observing it carefully as the work developed, in order to get good, harmonious corners.

Well, now I'm using this hetherodox method (ok, some will frown upon me...). First I choose a round object that has the same radius of the model that is inspiring me. Here I chose a small bottle for the lower part of the C bouts, it conforme to the outline of my model:



Now I wrap a rather coarse sandpaper over the round object and use it to shape the corner, since it has the same shape of the model that is inspiring me it will create a similar curve on my corner:



I'll choose rounded objects that conform to the other corners and repeat the same process. Here the rounded object is the handle of one of my gouges:



I'm using a coarse sandpaper to work fast, but you can use a finer sandpaper to have more control of the shaping process. Keep the sandpaper parallel to the ribs:



Here I'm controlling the corner width with my calipers:



And this is what I have now:



Some would consider it ok as it is now, but I will remove some wood of this part on the C bouts, both in the lower and upper corner to make the final part of the corner a bit parallel, I'll do this with a knife:



And get something like this:



I'll repeat the method with the eight corners:



MANFIO - VIOLA/VIOLIN MAKER